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ABSTRACT

The usefulness of two computer-based guidance systems--SIGI (System of Interactive Guidance and Information) and ENCORE--in meeting the career planning needs of adults was explored. Another area of study was how these systems fit into the differing career resource centers of an employer, a college, and a public library. Participants who used SIGI at the NCR Management College and at a SIGI work station in the personnel resources office of an Ohio NCR division found the program helpful. Their comments confirmed the general demand for career development programs. Of the 51 people who used the ENCORE system at the Ursuline College Counseling Center, 27 were very pleased and 20 rated the system as "OK." SIGI users at other educational sites were very satisfied, although over half rated SIGI content as oriented toward a younger college student. The use of SIGI and ENCORE in public libraries in Cleveland and Columbus, Ohio was minimal and illustrated the need for a supporting program in terms of marketing, staff support, and follow-up services. (YLB)

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# ADULT LEARNERS' RESPONSE TO COMPUTER-BASED CAREER GUIDANCE SYSTEMS IN THREE SETTINGS:

# AN EMPLOYEE DEVELOPMENT PROGRAM, A COLLEGE COUNSELING CENTER, AND A PUBLIC LIBRARY.

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INTRODUCTION

A "Career Transition" has been identified as the major " trigger" for the increasing number of adults returning to school (Aslanian and Brickell 1975). Thus, academic counseling and career planning have merged in regard to the adult on campus. For employers, career development programs are one way to ensure retention of skilled employees as well as an avenue for re-training those employees whose skills are no longer needed by the organization. Recession lay-offs, obsolete production jobs, a technically-oriented job market, an increasing number of women entering the workforce; and on the personal level, the well-documented "Mid-Life Career Crisis", are more factors which have led to an unprecedented demand for career counseling for adults.

A computer-based guidance system is one valuable tool counselors can utilize to enhance career planning services.

Two interactive guidance systems currently available for adult use are SIGI (System of Interactive Guidance and Information) developed and owned by Educational Testing Services, and ENCORE, designed by JoAnn Harris Bowlsbey for the Council for the Advancement of Experiential Learning (CAEL). SIGI was written for the 18-22 year-old college student needing career guidance. It teaches a values clarification and decision-making algorithm and provides occupational information from national data sources. ENCORE aides the adult learner

in assessing life roles and experiences according to Dr. Donald Super's model of the "Life Career Rainbow", and it administers on-line skill and interest inventories correlated to the ACT "World of Work Map". Both systems address educational planning and provide data on occupational training programs.

How useful are these programs in meeting the career planning needs of adults? How do these systems fit into the differing career resource centers of an employer, a college and a public library? Ohio University explored these questions with cooperating centers as part of the 1981-82 activities of Project Learn, a CAEL National Learners Services Project funded by the Kellogg Foundation.

## SIGI IN AN EMPLOYEE CAREER DEVELOPMENT CENTER

In March of 1982, Dr. Ann Ayres-Gerhart of NCR Management college and career development center in Dayton, ohio, set up pilot to evaluate NCR employees' reaction to SIGI. Twenty-four participants, 11 of these personnel professionals, used SIGI at the Management College and filled out an evaluation questionnaire.

The participants rated the overall helpfulness of a computerized guidance system and the majority found it to be helpful (5.83 on the 7 point scale). Approximately 2/3 of the participants rated it a 6 or 7. The comments on the benefits of a computerized guidance system over

other means included:

| | |
|---|---|
| Privacy | Efficiency |
| Gave feedback | Self-paced |
| Accessibility of computers | Was systematic |
| Forced decision-making | Is individualized |
| Provides information quickly | Is fun |
| Could reduce counseling time | Does not allow for procrastination |
| Gives a feeling of accomplishment | Easier than the workbook approach |
| Easy to administer and maintain (update) | Can use system multiple times |
| Allows flexibility (changing specs) | A lesser time investment to gather information |

When asked if NCR designed a system specifically for adults, would there be sufficient interest among NCR employees, the average response fell at 5.50 on the 7 point scale exactly half-way between "some interest" and "great interest". The model response was 6 (11 participants).

The participants were asked to rate the importance to most NCR employees of various activities in career planning. The following represents the ordered importance of the activities with the most

important listed first along with the average rating on a three-point scale:

| | | |
|---|---|---|
| 1. | Evaluating one's skills and abilities in relation to career alternatives. | 2.81 |
| 2. | Assessing one's occupational interests to clarify career objectives. | 2.77 |
| 3. | Clarifying values related to career satisfaction. | 2.65 |
| 4. | Determining training needs. | 2.58 |
| 5. | Identifying learning based on passed experiences. | 2.23 |

All were rated between somewhat important (2) and very important (3).

The participants also rated information topics that could be included in an NCR specific version according to the importance to employees. The following list represents those topics in order of importance (most important listed first) along with the average rating on a 3-point scale. A rating of 3 corresponding to "very important" and 2 to "somewhat important":

| | | |
|---|---|---|
| 1. | Promotion requirements | 2.85 |
| 2. | Career paths | 2.81 |
| 3. | Training programs | 2.68 |

| | | |
|---|---|---|
| 4. | Expected and actual openings | 2.65 |
| 5. | Salary ranges | 2.58 |
| 6 | Job families | 2.54 |
| 7. | Average time in positions | 2.34 |
| 8. | Organizational structure | 2.12 |

Other topics listed were career options, analysis of skills in relation to jobs, prestige/visibility (of jobs), and some workshop exercises.

NCR continued its exploration of SIGI by setting up a SIGI workstation (microcomputer and printer) in the Personnel Resources Office of an Ohio NCR division. Representatives were invited from employee groups (union, professional/manager, non-exempt, administrative support) to use the system. Since few of these employees planned to move from the area, they were most interested in career paths within NCR. Twenty-five individuals used the program and the average response to "overall helpfulness" remained high with a 5.3 average on a 7 point scale. Responses to questionnaire items did not differ significantly from those of Human Resource Development professionals at the Management College. The subsidiary employees checked career decision concerns from a checklist. These confirmed the general demand for career development programs.

"Many individuals have concerns that make it difficult to make career decisions. From the list below please check the one concern that would best describe you before you used SIGI."

In the fall of 1982, a similar pilot was organized by Diane Millett, EEO specialist with the Cleveland Clinic, a not-for-profit

health care organization with 7000 employees. Although the results are not completely tabulated, the 105 Cleveland Clinic employees who used the SIGI system generally agreed with NCR employees that the system could benefit information seekers at all levels. Employees also agreed that the most desirable program would be one that included information on career paths and promotion within their own organization.

With the assistance of Ohio University, small companies in Ohio have made the SIGI system available as a service to laid-off employees. Recruitment and pre-retirement planning are two more personnel functions that may utilize computer-based career guidance in the future.

For any employer, a career development program requires an organizational review of personnel policies and employee development philosophy. Which employee groups should receive career counseling? How does performance evaluation tie in? Is the company willing to publish job openings, salary ranges, and career ladders? How much of an investment will the company make to collect data on itself? How does career planning tie into manpower planning? These and other organizational commitments will affect the scope and quality of any system tailored for a particular client.

Although the system may be useful, other complications can arise in connection with the assessment and record-keeping potential of a system. A skills bank, listing entry-level skills and training outcomes would be invaluable. However, if results were recorded and used for personnel decisions, the legalities of job testing "validity" would certainly surface along with confidentiality issues.

SIGI AND ENCORE IN UNIVERSITY COUNSELING CENTERS

A less problemtaic location for computer-based career guidance is on the college campus. In October, 1982 the ENCORE system was used by 51 people at the Ursuline College Counseling Center. Twenty of the users were adult students, nine identified their occupation as housewife and twenty-two identified themselves as professionals, the majority of the professionals teachers. All users had tried previous career planning activities. Most had read a book or article and 21 had discussed a career plan with a supervisor. "Return to School" and "Job Change" were the "Transition Events" experienced most by the users during the previous year. Before using the system individuals, identified their most difficult career decisions and the concerns checked most were: "I don't know what career would give me the most satisfaction" and "My goals are unclear; I don't know what I want to do."

Satisfaction with subsystems was measured on a scale of 1 - 7 (1, very satisfied, 7 - not satisfied).

| | Average Score: |
|---|---|
| Module 1 - Career Rainbow | 3.55 |
| Module 2 - List of Skills & Knowledge | 3.15 |
| Module 3 - Exploring Career Options | 3.32 |
| Module 4 - Prior Learning | 3.87 |
| Module 5 - CAEL Director | 5 (6 users finished this module) |

Overall satisfaction was divided between "Very Pleased" (N=27) and "OK" (N=20) and "Not Pleased" (N=3). Thirty seven users said they wanted to use the system more. Some of the negative reactions probably can be traced to new system "bugs" which unnecessarily frustrate the user.

Earlier, in the spring of 1981, a SIGI evaluation was undertaken at the University of Louisville's Life Planning Center and the Kentuckiana Metroversity Educational Opportunity Center. funded by CAEL, the study reported on 75 users over the age of 25 who had completed SIGI as part of a career-planning process. Overall satisfaction with SIGI was very high in site of the fact that 52% rated SIGI content as "oriented toward a younger college student". Sixty-nine percent of those surveyed believed that the main adaptation of an adult version of SIGI should be the consideration of past occupations and education. All sections were rated positively with the "Compare" subsystem rated highest. Counselors at other college centers also report that in general the "Compare" module, a comprehensive information retrieval program, is well-liked and used by adult students. In terms of Counseling Outcomes, SIGI was highly rated when users were asked to agree or disagree with the following statements:

| | Strongly Agree (1) | (2) | (3) | (4) | Strongly Disagree (5) |
|---|---|---|---|---|---|
| 1. SIGI helped me clarify my values. | 28 | 40 | 20 | 11 | 1 |
| 2. SIGI helped me find occupations which might fit my values. | 15 | 45 | 27 | 9 | 4 |
| 3. SIGI helped me see what steps to take in order to prepare for an occupation. | 32 | 32 | 28 | 3 | 5 |
| 4. SIGI helped me estimate my probable success in one or more occupations. | 19 | 31 | 29 | 19 | 3 |
| 5. SIGI helped me see the relationship between values and career decisions. | 43 | 41 | 9 | 4 | 3 |
| 6. SIGI helped me learn to make career decisions. | 14 | 34 | 39 | 8 | 5 |
| 7. My session(s) with SIGI were helpful. | 28 | 37 | 28 | 4 | 3 |
| 8. SIGI supplied me with occupational information which was new to me. | 27 | 44 | 24 | 4 | 1 |
| 9. The repetition of displays and information was helpful. | 23 | 37 | 32 | 8 | 0 |
| 10. I felt comfortable using the computer terminal. | 45 | 33 | 11 | 5 | 5 |

ENCORE IN A PUBLIC LIBRARY

A 1981 survey of adult needs for career decision-making conducted by ETS showed a majority selecting "college or university" as the preferred site for a guidance system with "public library" as the second choice. During 1981, SIGI and ENCORE were placed in public libraries in Cleveland and Columbus, Ohio for trial programs. The use was disappointingly minimal and illustrated the need for a supporting program in terms of marketing, staff support and follow-up services. At this point in time the systems are not designed to completely stand alone. Thirty-four percent of the adults using the ENCORE system listed their next step as "seeing a counselor" either for help with goal setting or with further job research.

DISCUSSION

The findings of the ETS 1981 survey of adult needs for career decision-making were confirmed by adults' response to the current version of SIGI and ENCORE. (ETS, 1982) The main points are:

1. Adults do want a "guidance system". They are often interested in a change of occupation rather than advancement. Many adults need assistance with goal-setting and value clarification.
2. Adults want skills assessment at the center of career guidance. They are equally interested in seeing skill-based job descriptions because they generally seek above-entry level positions.
3. Adults want "local" information since they are generally less

mobile than younger college age students.

4. Job benefits are as important to adults as occupational values. These include items such as fringe benefits and opportunity for additional training.
5. Adults are interested in further educational opportunities and training programs.

Career guidance software for the microcomputer is a career planning resource which will soon be accessible and well-distributed among a variety of adult learning centers. The computer has four features which strengthen its effectiveness. The computer can 1) provide a comprehensive data bank of information on occupational and educational opportunity; 2) sort through and interrelate volumes of information; 3) "custom design" educational or occupational choices for a particular client; and 4) save counselors time by administering a variety of inventories and multiple choice interviews(ERIC/CAPS).

National research centers, like ETS and ACT, will be marketing guidance systems designed for adults within two years. Programs created for the consumer home computer market are already being advertised. This type of software will invariably include a range of specialized interests and a range of quality comparable to popular career planning handbooks available in bookstores. Programs designed for particular employers will take more time to develop, but will also be widespread in the near future. This entire market will be extremely competitive creating a challenge for educators to design, research and evaluate software for adult career counseling. Because the computer multiplies the resource and productivity of any counseling center, many more adults will be able to receive the assistance they need and

counseling professionals will have more data to refine life-career planning theories that adequately address adult's concerns.

## CONCLUSION

Computer-based career guidance is a valuable tool in career exploration and decision-making. SIGI and ENCORE, the guidance systems reported on are both attractive to adult users and successfully address educational planning needs and occupational research. Adults rate the values clarification process of SIGI very highly in spite of the fact that the values subsystem was not designed to reflect adult concerns. The ENCORE system is still in development and mechanical frustrations distorted users' experience of the program. Never-the-less, adults rate the experience generally positive. Adults using a guidance system as part of an employee career development program want information specific to their own organization. Few adults choose to use a "stand-alone" system in a public library implying a need for counselor's support.

The diverse needs of adult career changers and the need for specific local or organizational information suggests adult guidance systems will add on modules and/or optional localized files.

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